

Remarks

Claims 1-12 are pending in the application. Claims 2-5 were withdrawn from consideration pursuant to a restriction requirement by the Examiner. Claims 6-12 are newly added. Claim 1 is rejected.

Claim objections

Withdrawal of the objection to claim 1 is respectfully requested in view of the amendment to claim 1 set forth above.

Claim rejections

Section 112

Claim 1 was rejected under 35 USC 112, 1st paragraph as failing to comply with the enablement requirement. This rejection is respectfully traversed. The disclosure fully supports the claimed forward-motor-drive control means, forward-engine-drive control means, and mode selecting means.

As observed by the Examiner, the recited means limitations are supported at least, for example, by hybrid control device 60 and associated control routines. The Examiner further points out that hybrid control device 60 is described with particularity at, for example, page 31, as including a CPU, RAM, ROM and stored programs. Such devices are common for controlling logic routines in automotive vehicles (often such a device is called an "ECU" or "electronic control unit"). The Applicant respectfully submits that one skilled in the art to which the present invention pertains would, given the present specification and process flows illustrated in the figures, easily be able to configure such a well-understood device to implement the disclosed logic. More specifically, the specification describes how hybrid control device 60 is constructed or arranged to control the first and second clutches C1, C2 so as to establish the recited forward motor drive mode, direct engine-drive mode and engine-and-motor drive mode (ETC DRIVE mode), in particular in connection with FIGs. 4 and 5A-5C, for example. Further disclosed is how hybrid control device 60 includes mode selecting means capable of executing a mode transition control routine as illustrated in FIG. 9 (please

note, in particular, steps S2-4 and S2-5 in FIG. 9 and page 45, lines 16-23, containing an explicit reference to "mode selecting means").

In view of the foregoing, withdrawal of the rejection of claim 1 under 35 USC 112, 1st paragraph is respectfully requested.

Claim 1 was further rejected under 35 USC 112, 2nd paragraph. Specifically, the Examiner contends that the subject matter of claim 1 is not clear because the disclosure does not describe the claimed means. In view of the above explanation in response to the section 112, 1st paragraph rejection, the Applicant respectfully submits that the disclosure does describe the claimed means, and consequently, the subject matter of claim 1 is clear. In other words, the rejection under section 112, 2nd paragraph is not sustainable because the rejection under section 112, 1st paragraph is not sustainable. Accordingly, withdrawal of the rejection of claim 1 under 35 USC 112, 2nd paragraph is respectfully requested.

Section 103

Claim 1 was further rejected under 35 USC 103(a) as being unpatentable over Tsuzuki et al. (US 6,018,198) ("Tsuzuki"). The Applicant respectfully traverses, as discussed below.

Tsuzuki fails to teach or suggest the claimed first and second clutch.

Tsuzuki does not support the asserted rejection for at least the reason that Tsuzuki does not teach or suggest a first and second clutch as recited in claim 1. The Examiner alleges that clutches 42 and 41 of FIG. 16 of Tsuzuki are equivalent, respectively, to the claimed first and second clutches. The Applicant respectfully disagrees. Claim 1 recites that a second rotary element is connected to an output member through the first clutch. In Tsuzuki, clutch 42 connects the electric motor 2 to the engine 1 (to start the engine), but does not connect a second rotary element to an output member. Consequently, Tsuzuki cannot meet the structural limitations of the claimed first clutch.

Further, clutch 41 of Tsuzuki is not the equivalent to the claimed second clutch. Claim 1 recites that the second clutch is released to establish the forward motor drive mode. By contrast, clutch 41 of Tsuzuki is necessarily engaged in a motor drive mode.

Tsuzuki fails to teach or suggest the claimed mode selecting means.

Further, Tsuzuki does not support the asserted rejection for at least the reason that Tsuzuki does not teach or suggest mode selecting means as recited in claim 1. For a better understanding of why this is the case, it is believed that a discussion of FIGs. 1-7 of Tsuzuki would be helpful.

In the system of FIG. 1 of Tsuzuki, the engine 1 is restarted by the motor generator 2 with an aid of the starter motor 11 (col. 12, lines 49-61 and col. 14, lines 54-61), when the vehicle drive mode is switched from the motor drive mode to the engine drive mode through Ci-clutch standby control region (hatched area indicated in FIG. 2). When this standby control region of FIG. 2 is established, step S4 of FIG. 4 is followed by step S5 in which pressure Pci of the clutch 3 is increased to fast-fill pressure Pf and is then held at standby pressure Pstby, as indicated in FIG. 3 (col. 12, lines 1-10), so that the engine is ready to enter the compression stroke (col. 12, lines 15-18).

After the standby period tstby has expired, step S6 is initiated. That is, the control routine of FIG. 6 is initiated to first turn on the starter motor 11 and increase the motor torque Tm and the pressure Pci, to engage the clutch 3, in steps S31-S33 (col. 12, lines 49-53 and col. 14, lines 26-31). After the engine speed Ne has reached a predetermined value (e.g., 500 rpm), that is, after an affirmative decision (YES) is obtained in step S36, step S37 is implemented to supply fuel to the engine for ignition. Thus, the engine drive mode in Tsuzuki is established irrespective of whether the engine is likely to stall in this engine drive mode. By contrast, claim 1 recites "mode selecting means operable upon switching of a vehicle drive mode from said forward motor drive mode to one of said direct engine mode and said engine-and-motor drive mode, for *determining whether said engine is likely to stall if said direct engine drive mode is established ...* " (emphasis added). In view of the foregoing discussion of Tsuzuki, it is clear that Tsuzuki is completely silent as to such a feature.

One advantage of the claimed feature is that stalling can be prevented when the vehicle drive mode is switched from the motor drive mode to the engine drive mode while the engine speed is relatively low (for example, when the vehicle is running on a steep uphill roadway or under a relatively large load, as described in the present specification on page 44, lines 17-27. It is evident that Tsuzuki never contemplates such a problem, nor offers a solution thereto.

In view of the foregoing, withdrawal of the rejection of claim 1 as unpatentable over Tsuzuki is respectfully requested.

New claims 6-11 depend on claim 1 and therefore incorporate its features. Accordingly, new claims 6-11 are likewise allowable over Tsuzuki for at least the reasons discussed in connection with claim 1.

New claim 12 is a method claim that includes at least recitations to a first and second clutch along the lines of claim 1, and to a step of determining whether an engine is likely to stall along the lines of claim 1. Accordingly, claim 12 is similarly allowable over Tsuzuki, for at least the reasons discussed in connection with claim 1.

Conclusion

In light of the above discussion, Applicant respectfully submits that the present application is in all aspects in allowable condition, and earnestly solicits favorable reconsideration and early issuance of a Notice of Allowance.

The Examiner is invited to contact the undersigned at (202) 220-4323 to discuss any matter concerning this application. The Office is authorized to charge any fees related to this communication to Deposit Account No. 11-0600.

Respectfully submitted,

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